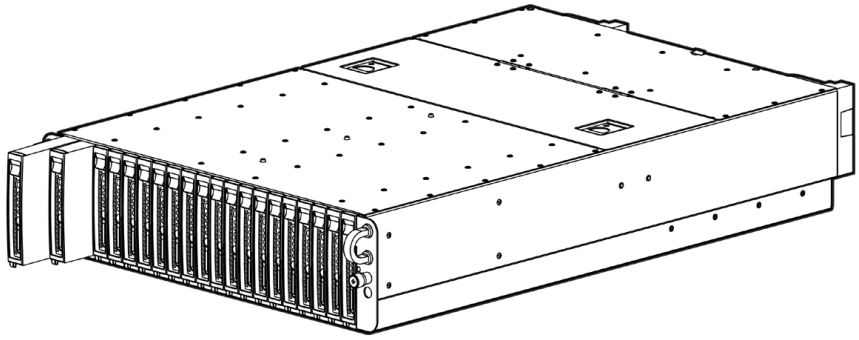
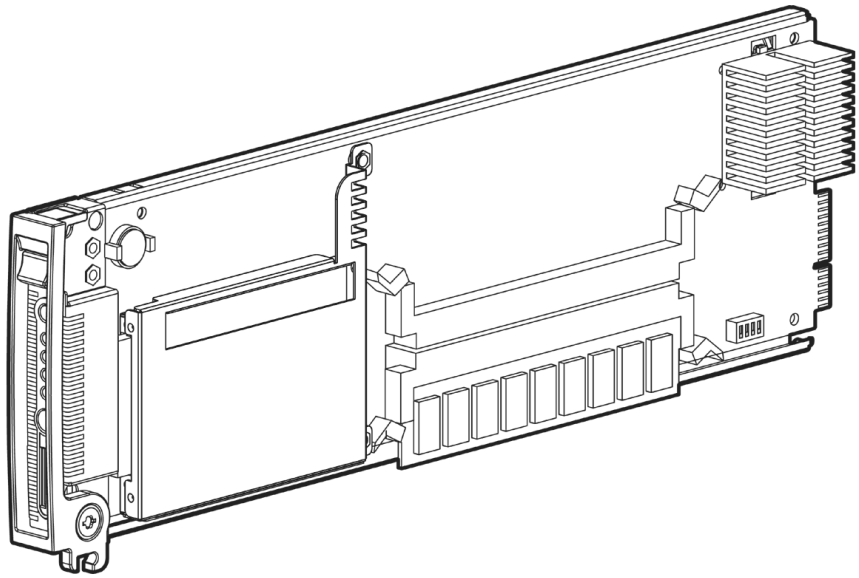
Overview



ProLiant BL e-Class Server Blade Enclosure
(shown with 20 ProLiant BL10e server blades)



ProLiant BL10e Generation 2 (G2) Server Blade

Overview

What's New

- One Ultra-Low Voltage Intel Pentium M 1GHz processor with 1-MB L2 cache
- Support for DDR memory

ProLiant BL10e G2 Server Blade includes:

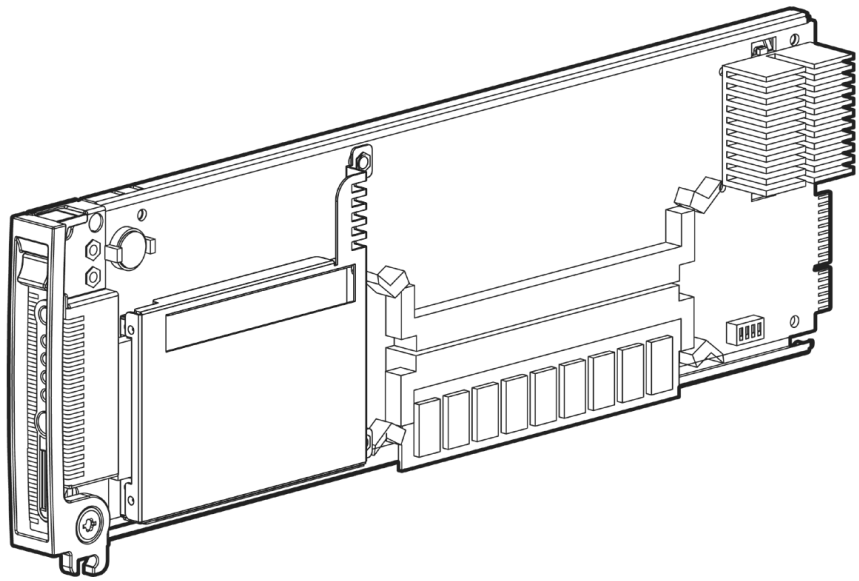
- One Ultra-Low Voltage ULV Intel Pentium M processor with 1-MB L2 cache (400-MHz front side bus)
- ServerWorks GC-SL chipset
- 512-MB C2100 Registered ECC DDR DIMM Memory standard expandable to 1024MB (2 DIMM slots)
- Two NC3163 Fast Ethernet NIC PCI 10/100 full WOL and PXE Integrated
- One 40-GB Ultra ATA/100 hard drive
- Server blades protected by HP Services, including a limited one year parts warranty with optional service uplifts available

ProLiant BL e-Class Server Blade Enclosure includes:

- 3U high rack-mountable chassis with 20 server blade bays
- Can be purchased with 20 licenses for new ProLiant Essentials Rapid Deployment Pack at 50% of standard license list price!
- Dual, 1+1 redundant hot-plug power supplies
- Four, 2+2 redundant hot-plug fans
- Three available interconnect options: C-GbE Interconnect Switch; RJ-45 Patch Panel; and RJ-21 Patch Panel
- Server blade enclosure protected by HP Services, including a limited three year warranty with optional service uplifts available

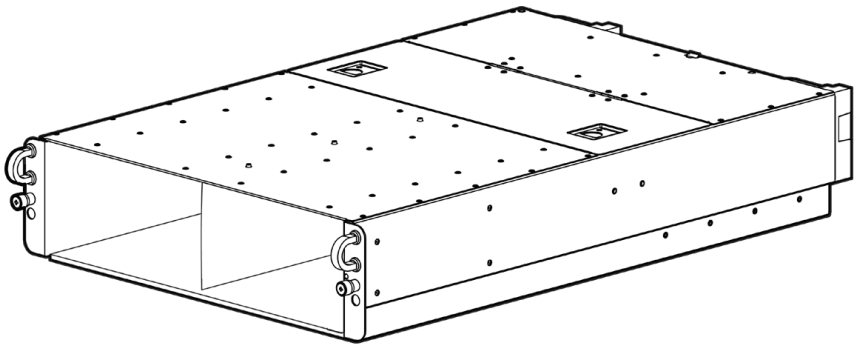
ProLiant BL e-Class Integrated Administrator features:

- Acts as a combination terminal server and remote power controller, enabling out-of-band, secure, serial console connections to all server blades and the optional interconnect switch
- Enclosure, interconnect switch and server blade health monitoring and alerts
- Command-line and browser-based management interfaces, including access permissions, for the server blades and the enclosure
- Provides access to the interconnect optional switch management interfaces
- SNMP, web and scriptable command-line interfaces

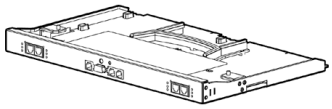


PLUS

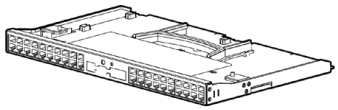
Overview



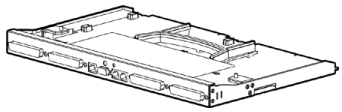
PLUS



or



or



a. C-GbE Interconnect Switch b. RJ-45 Patch Panel c. RJ-21 Patch Panel

Configuration Steps

For a complete configuration of the HP ProLiant BL e-Class system, do the following:

1. Select ProLiant BL10e G2 server blades sold [in a single-pack or 10-pack]

   PLUS

2. Select Server Blade Enclosures (each can hold up to 20 ProLiant BL10e G2 server blades). The enclosure can be purchased bundled with 20 licenses for ProLiant Essentials Rapid Deployment Pack at 50% of the standard license price.
   (NOTE: Rapid Deployment Pack is optimized for configuring and deploying ProLiant BL10e G2 server blades and enable unique features such as blade "rip and replace" for effortless server redeployment.)

   PLUS

3. Select one of the three Interconnect Tray options for each server blade enclosure
   (NOTE: Each interconnect tray includes an Integrated Administrator module.):

   a. C-GbE Interconnect Switch (with 4 10/100/1000T Gigabit Ethernet RJ-45 uplinks for up to 40-to-1 network cable reduction!)

   OR

   b. RJ-45 Patch Panel (with 40 RJ-45 connectors)

   OR

   c. RJ-21 Patch Panel (with 4 RJ-21 connectors for cable aggregation behind the enclosure)
   (NOTE: If suitable for your environment, select also the RJ-21 to RJ-45 Cable Option kit.)

Standard Features

HP ProLiant BL10e G2 Server Blade

Processor	One Ultra-Low Voltage Intel Pentium M 1GHz processor	
Cache Memory	1MB Level-2 on-die Cache	
Chipset	ServerWorks GC-SL chipset	
	NOTE: For more information regarding ServerWorks, please see the following URL: http://www.serverworks.com/products/overview.html NOTE: This Web site is available in English only.	
Memory	Standard	512MB PC2100 Registered ECC DDR DIMM Memory standard (1x512 MB)
	Maximum	1024 MB (2 DIMM slots total)
Network Controller	Two NC3163 Fast Ethernet NIC PCI 10/100 full WOL and PXE Integrated	
Internal Storage	Hard Drive	One 40-GB Ultra ATA/100 5,400 rpm Non-Hot Plug hard drive
Warranty	1 year on parts, 9x5 NBD. HP Care Pack warranty upgrades available to add labor, on-site service, faster response times, and longer terms to the standard server blade warranty.	
Form Factor	Server blades plug vertically into HP ProLiant BL e-Class Server Blade Enclosure	
Product Demo	To view the Product Demo, please see the following URL, then click on "PRODUCT DEMO": http://www5.compaq.com/products/servers/proliant-bl/e-class/index.html NOTE: This Web site is available in English only.	

HP ProLiant BL10e G2 Server Blade

Dimensions	5.25 inch Height (3U), 17.5 inch Width, 28.35 inch Depth
	Bays for up to 20 ProLiant BL10e G2 server blades
Rack Capability	Mounts in HP, HP-branded, third-party, and Telco racks. Rack mounting hardware for HP, Compaq-branded and third-party racks ships standard with each server blade enclosure. Telco rack-mounting hardware is a separately available option kit.
Server Blade Enclosure includes	Rear bay for 1 of 3 Interconnect Tray configurations for network cable management (see below).
	Two (2) Diagnostic Adapters for connecting keyboard, video, mouse and other devices locally to individual server blades
	ProLiant Essentials Foundation Pack for ProLiant BL Servers, includes the Insight Managerä 7 and Management Agents CD and ProLiant Essentials Rapid Deployment Pack CD (trial version - 7-days, 10 nodes). (NOTE: The ProLiant BL e-Class server blade enclosure can also be purchased bundled with 20 licenses for Rapid Deployment Pack at 50% of the standard license price.)
	Four (2+2 redundant) hot- plug fans
	Dual (1+1 redundant) hot- plug power supplies (600 watts each), power cords
	Server blade blanks (to fill 19 of the 20 server blade bays)
	Rack mounting hardware for HP, Compaq-branded and third-party racks
	Null-modem cable for serial connection to the Integrated Administrator serial "Console" connector
	HP Documentation CD
Warranty	3 years on parts, labor and on-site service. HP Care Pack warranty upgrades available to add faster response times to the standard warranty.

HP ProLiant BL e-Class Interconnect Trays

NOTE: Each interconnect tray includes the Integrated Administrator module.

Please see the following (3) interconnect tray configurations for accessing server blade network connections:

ProLiant BL e-Class C-GbE Interconnect Switch (with 4 Gigabit Ethernet uplinks for up to 40-to-1 network cable reduction!)
NOTE: See details below.
RJ-45 Patch Panel (with 40 RJ-45 connectors)
RJ-21 Patch Panel (with 4 RJ-21 connectors for cable aggregation behind the enclosure)
NOTE: See "Other Options" below for RJ-21 to RJ-45 Cable option kit.

Warranty 3 years on parts, labor and on-site service. HP Care Pack warranty upgrades available to add faster response times to the standard warranty.

HP ProLiant BL e-Class Integrated Administrator ver. 1.40 Features

- Out-of-band local console and remote network access to the server blade enclosure and all 20 server blades via (one) RJ-45 10/100T Fast Ethernet and (one) RS-232 management connectors
- Provides local and remote access to the ProLiant BL e-Class C-GbE Interconnect Switch command console and browser-based management interfaces
- SNMP, Web (via HTTPS) and command-line interfaces (via Console connector, Telnet and Secure Shell)
- Remotely power on/off/reboot server blades and enclosures
- Remotely toggle on/off unit identification LEDs (UID) of server blades and enclosures
- Monitors and controls the enclosure fans, temperature sensors, power supplies, interconnect switch and server blade status
- Connect to each server blade's serial text console for enabling full control over server blade's
- Power-On Self Test (POST) and boot process, including the ROM-Based Setup Utility (RBSU).
  NOTE: For ProLiant BL10e G2 server blades running Windows® 2000 Server, there is now available a Serial Console for Windows utility that provides serial-based administrative functionality using the Integrated Administrator remote console feature. For more information and to download the Serial Console for Windows utility, go to the following page:
  http://www.compaq.com/support/files/server/us/locate/20_2611.html
  NOTE: This Web site is available in English only.
- User administration for up to 25 users. Server blade bay privileges can be set on a per-user basis
- Virtual NMI button generates non-maskable interrupt for crash debug and analysis
- Support for Network Time Protocol (NTP)
- IP Security feature limits access to user-specified IP addresses
- AlertMail enables email alerts for system events
- More than 100 scriptable commands enable automated management
- Selective enabling of all protocols, such as Telnet
- Logging of operating system console, server blade and enclosure hardware events, user actions and invalid login attempts
- Emergency server blade enclosure shutdown caused by a critical temperature
- Enclosure Link (2) connectors reserved for future use.
  CAUTION: The enclosure link (RJ-45) connectors on the interconnect tray are not to be used. Connecting an external device to these enclosure link (RJ-45) connecters may damage your external device.
  For more information on the ProLiant BL e-Class Integrated Administrator, please visit the Web site at:
  http://www.compaq.com/products/servers/proliant-bl/e-class/integrated-admin.html
  NOTE: This Web site is available in English only.

HP ProLiant BL e-Class C-GbE Interconnect Switch Features

- Provides up to a 40-to-1 reduction in network cables for each server blade enclosure using a pair of non-blocking layer 2 switch modules
- Four RJ-45 10/100/1000T Gigabit Ethernet uplinks
- Forty 10/100T Ethernet ports dedicated to server blade-to-interconnect switch network communications
- Communicate with all 40 server blade network controllers through any one uplink connector and the management connector
- Spanning tree protocol for loop-free path redundancy
- Browser, scriptable CLI, and console-based interfaces for local and remote interconnect switch management
- Manage entire interconnect switch through the Integrated Administrator connectors or any uplink connector
- Telnet, RMON and SNMP support; SNMP-based scripting utility with example scripts
- 256 Port-based IEEE 802.1Q tagged VLANs per switch processor module
- IGMP (internet group management protocol) snooping and quality of service (QoS) packet prioritization
- TFTP server support for rapid deployment of multiple interconnect switches and to provide backup and restore capabilities
- Industry-standard design compatible with industry-standard network components from leading network manufacturers
- Fully pre-configured for rapid deployment and immediate operation in ProLiant BL e-Class enclosure
- For more information on the ProLiant BL e-Class C-GbE Interconnect Switch, please visit the Web site at: http://www.compaq.com/products/servers/proliant-bl/e-class/interconnect-switch.html
  NOTE: This Web site is available in English only.

Other Options

- RJ-21 to RJ-45 Cable option kit; contains four (4) 10 foot RJ-21 to RJ-45 cables (for use with the RJ-21 Patch Panel) interconnect tray

Diagnostic Adapter Interfaces

NOTE: Two Diagnostic Adapters are included with every ProLiant BL10e G2 Server Blade Enclosure.

ProLiant BL10e G2 server blade LEDs and buttons

PS/2 Mouse

PS/2 Keyboard

Video

Serial

USB (2)

NOTE: Please see the following URL for additional information regarding USB support: http://www.compaq.com/products/servers/platforms/usb-support.html.
NOTE: This Web site is available in English only.
NOTE: Server blades also support USB keyboard and USB mouse attached via the Diagnostic Adapter. The following USB devices have been tested for use with the ProLiant BL10e and the Diagnostic Adapter:

- USB Easy Access Keyboard (Carbon) (PN 267146-xx8)
- USB Easy Access Keyboard (Carbonite) (PN DC168B#)
- USB 2-Button Scroll Mouse (Carbon) (PN 195255-B25)
- USB 2-Button Scroll Mouse (Carbonite) (PN DC172B)
- USB Floppy (PN 304707-B21)

Standard Features

ProLiant Essentials Foundation Pack Software	Insight Manager 7	Insight Manager 7 helps maximize system uptime and performance and reduces the cost of maintaining the IT infrastructure by providing proactive notification of problems before those problems result in costly downtime and reduced productivity. Insight Manager 7 is easy to set up and provides rapid access to detailed fault and performance information gathered by the Management Agents. One-click-access to the Remote Insight Lights Out Edition II board allows systems administrators to take full graphical control of ProLiant servers in remote locations or lights-out data centers. Finally, Insight Manager 7 in concert with the Version Control Agents and Version Control Repository Manager enables systems administrators to version manage and update system software across groups of ProLiant Servers. http://www.compaq.com/products/servers/management/cim7-description.html
	Management Agents	The Management Agents form the foundation for Intelligent Manageability strategy. They provide direct, browser-based access to in-depth instrumentation built into HP servers, workstations, desktops, and portables, and send alerts to Insight Manager 7 and other enterprise management applications in case of subsystem or environmental failures. For additional information about the Management Agents and other management products from HP, please visit the management at http://www.hp.com/servers/manage.
	Optional ProLiant Essentials Value Packs	Optional software offerings that selectively extend the functionality of an Adaptive Infrastructure to address specific business problems and needs: • Rapid Deployment Pack -an automated solution for multi-server deployment and provisioning, enabling companies to quickly and easily adapt to changing business demands. • Workload Management Pack -provides easier management of complex environments, improving overall server utilization and enabling Windows 2000 customers for the first time to confidently deploy multiple applications on a single multiprocessor ProLiant Server. NOTE: For more information regarding ProLiant Essentials Software, please see the following URL: http://www.hp.com/servers/proliantessentials
	Optional ProLiant BL e-Class Interconnect Switch Management System and Utilities	Full featured web-based interface, menu-driven console interface, SNMP-based scripting utility and example scripts, SNMP and RMON MIBs, and TFTP server utilities for management of interconnect switch (included with the ProLiant BL e-Class C-GbE Interconnect Switch interconnect tray option). For more information on the ProLiant BL e-Class C-GbE Interconnect Switch, please visit the Web site at: http://www.compaq.com/products/servers/proliant-bl/e-class/interconnect-switch.html NOTE: These Web sites are available in English only.

Industry Standard Compliance	ACPI 1.0b compliant SDG 3.0 compliant Microsoft Logo certifications MIB-II (RFC 1213), Bridge MIB (RFC 1493), Interface MIB (RFC 2233), 801.1Q MIB (RFC 2684), RMON1 MIB (RFC 1757) groups 1, 2, 3, and 9, and Ethernet MIB (RFC1643) (ProLiant BL e-Class C-GbE Interconnect Switch interconnect tray option) IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE 802.1D, IEEE 802.1p, IEEE 802.3ac and 802.1Q, IEEE 802.1Q, and IEEE 802.3x (ProLiant BL e-Class C-GbE Interconnect Switch interconnect tray option) SNMP v1 (RFC 1157) and RMON v1 (RFC 1757) groups 1, 2, 3, and 9 (ProLiant BL e-Class C-GbE Interconnect Switch interconnect tray option)

Standard Features

Manageability

Insight Manager 7
ROM Based Setup Utility (RBSU)
Automatic Server Recovery (ASR-2)
Enclosure Self Recovery (ESR)
Advanced Configuration and Power Interface Specification Ready (ACPI)
Server Blade and Enclosure Health Logs
Redundant Power Supply Utility
Power Down Utility
Pre-Failure Warranty (covers processors, hard drives and memory)
HP Interconnect Switch Management System and Utilities (included with the ProLiant BL e-Class C-GbE Interconnect Switch interconnect tray option)

Availability

Redundant Hot-Plug Power Supplies (ProLiant BL e-Class Server Blade Enclosure)
Redundant Hot-Plug Fans (ProLiant BL e-Class Server Blade Enclosure)
ECC Memory (ProLiant BL10e Server Blade)
Redundant ROM (ProLiant BL10e Server Blade)
Support for ProLiant network adapter teaming
Dual network communication paths to each server blade using redundant, non-blocking layer 2 switch modules
Redundant inter-module communication links
Two redundant uplink ports per each interconnect switch module
IEEE 801.1D Spanning tree protocol for loop-free path redundancy
Redundant configurable community strings and SNMP trap manager hosts
IEEE 802.3ad automatic multi-link load balancing and link failover (excluding LACP)

Security

Power-on password
Administrator's password
Secure Shell (SSH) access through the Integrated Administrator serial console
ProLiant BL e-Class C-GbE Interconnect Switch interconnect tray option security
Multilevel user names and passwords with configurable time out period setting
Ability to disable web-based and Telnet access to the switch user interfaces
256 IEEE 802.1Q tagged VLANs per interconnect switch module
Unicast and multicast static MAC address packet filtering table (layer 2 access control list)
Ability to specify the IP based management stations that are allowed to access each switch
Restriction on the maximum number of MAC addresses learned on a per port basis
Secure shell (SSH) access to the switch command line and menu driven interfaces via the Integrated Administrator

OS Support

NOTE: For a more complete and up-to-date listing of supported OSs and versions, please visit our OS Support Matrix at: ftp://ftp.compaq.com/pub/products/servers/os-support-matrix-310.pdf.
NOTE: For a more complete and up-to-date information on Linux support, please visit HP Linux Web site at http://h18000.www1.hp.com/products/servers/linux/hpLinuxcert.html
NOTE: These Web sites are available in English only.

Rack Airflow Requirements

- Rack 9000 and 10000 series Cabinets
  The increasing power of new high-performance processor technology requires increased cooling efficiency for rack-mounted servers. The 9000 and 10000 Series Racks provide enhanced airflow for maximum cooling, allowing these racks to be fully loaded with servers using the latest processors.

- Rack 7000 series Cabinets
  When installing a server with processors running at speeds of 550 MHz or greater in Rack 7000 series racks with glass doors (165753-001 (42U), and 163747-001 (22U)), the new processor technology requires the installation of High Airflow Rack Door Inserts (327281-B21 (42U), 327281-B22 (42U 6 pack), or 157847-B21 (22U)) to promote enhanced airflow for maximum cooling.

CAUTION: If a third-party rack is used, observe the following additional requirements to ensure adequate airflow and to prevent damage to the equipment

- Front and rear doors: If your 42U server rack includes closing front and rear doors, you must allow 5,350 sq cm (830 square inches) of hole evenly distributed from top to bottom to permit adequate airflow (equivalent to the required 64 percent open area for ventilation).
- Side: The clearance between the installed rack component and the side panels of the rack must be a minimum of 7 cm (2.75 inches)

CAUTION: Always use blanking panels to fill all remaining empty front panel U-spaces in the rack. This arrangement ensures proper airflow. Using a rack without blanking panels results in improper cooling that can lead to thermal damage.

NOTE: Please consult the Setup & Installation Guide for the server for additional details.

Service and Support

HP Services provides a wide range of service offerings, including a three-year, limited warranty on the ProLiant BL e-Class server blade enclosure and interconnect trays and a one-year, limited warranty on the ProLiant BL10e G2 server blade. Warranties are fully supported by a worldwide network of resellers and service providers. HP technical assistance is available 7x24, toll free in the United States and Canada. Telephone support services may be covered under warranty or available for an additional fee.
NOTE: Server Blade Limited Warranty includes 1 year Parts.
NOTE: ProLiant BL e-Class Server Blade Enclosure & Interconnect Trays Limited Warranty includes 3 year Parts, 3 year Labor, 3-year on-site support.

A full range of HP Care Pack packaged hardware and software services: :

- Installation and start up
- Extended coverage hours and enhanced response times
- System management and performance services
- Availability and recovery services

NOTE: For more information, customer/resellers can contact http://www.hp.com/services/carepack

Please see the following URL regarding Warranty Information For Your HP Products:
http://www.compaq.com/support/warranty_upgrades/web_statements/176738.html

For additional information regarding Worldwide Limited Warranty and Technical Support, please see the following URL:
ftp://ftp.compaq.com/pub/supportinformation/ejourney/176738.pdf
NOTE: These Web sites are available in English only.

NOTE: Certain restrictions and exclusions apply. Consult the Customer Support Center at 1-800-567-1616 for details.

Models

ProLiant BL10e G2 P1GHz-1MB (ULV), 512-MB, 40-GB ATA *333773-B21 (1 pack)* *333774-B21 (10 pack)*	**Processor**	One Ultra-Low Voltage Intel Pentium M 1GHz processor
	Cache Memory	1-MB Level-2 on-die cache
	Memory	512 MB (Standard) to 1024 MB (Maximum) PC2100 Registered ECC DDR DIMM Memory standard (1x512 MB)
	Network Controller	Two NC3163 Fast Ethernet NIC PCI 10/100 full WOL and PXE Integrated
	Hard Drive	One 40-GB Ultra ATA/100 5,400 rpm Non-Hot Plug 2.5" hard drive
	Form Factor	Plugs vertically into HP ProLiant BL10e G2 Server Blade Enclosure

Options

ProLiant BLe-Class Unique Options	Four (4) RJ-21 to RJ-45 cables for use with the RJ-21 Patch Panel interconnect tray (10 foot cables)	257076-B21
	Enclosure Shipping Bracket Kit NOTE: When shipping an enclosure in a rack shipping brackets must be installed to the rack.	293119-B21
Server Blade Enclosure	ProLiant BL e-Class Server Blade Enclosure	243280-B21
	ProLiant BL e-Class Server Blade Enclosure (includes 20 licenses for ProLiant Essentials Rapid Deployment Pack at 50% of the standard per-node license list price)	273644-B21
Interconnect Trays (each includes an Integrated Administrator module)	Interconnect Tray, ProLiant BL e-Class C-GbE Interconnect Switch	243283-B21
	Interconnect Tray, RJ-21 Patch Panel	253177-B21
	Interconnect Tray, RJ-45 Patch Panel	243282-B21
ProLiant Essentials Value Pack Software	ProLiant Essentials Rapid Deployment Pack (1 node license, V1.1) NOTE: Each server blade bay slot populated by a server blade requires one license.	267196-B21
	ProLiant Essentials Rapid Deployment Pack (10 node license, V1.1) NOTE: Rapid Deployment pack is now available in Linux only environments.	269817-B21
	Flexible Quantity License Kit	302127-B21
	License-Only - for use with a Master License Agreement	302128-B21
	ProLiant Essentials Workload Management Pack (Featuring Resource Partitioning Manager version 2.0)	303284-B21
	NOTE: For more information regarding ProLiant Essentials Software, please see the following URL: http://www.compaq.com/proliantessentials. NOTE: This Web site is available in English only.	
Memory (SDRAM DIMMs)	128MB of Advanced ECC PC2100 DDR SDRAM DIMM Memory Kit (1 x 128 MB)	287494-B21
	256MB of Advanced ECC PC2100 DDR SDRAM DIMM Memory Kit (1 x 256 MB)	287495-B21
	512MB of Advanced ECC PC2100 DDR SDRAM DIMM Memory Kit (1 x 512 MB)	287496-B21
UPS and PDU Power Cord Matrix	***Please see the UPS and PDU cable matrix that lists cable descriptions, requirements, and specifications for UPS and PDU units:*** ftp://ftp.compaq.com/pub/products/servers/ProLiantstorage/power-protection/powercordmatrix.pdf. NOTE: This Web site is available in English only.	
Uninterruptible Power Systems- Rack	HP UPS R1500 XR (1440VA, 1340 Watt), Low Voltage	204404-001
	HP UPS R3000 XR (2880VA, 2700 Watt), Low Voltage	192186-001
	HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage	192186-002
	Rack-Mountable UPS R6000 (6000VA, 6000 Watt) High Voltage NOTE: The UPS R6000 has a hardwired input.	347207-001
	UPS R12000 XR N+ x (200-240V) (hardwired) NOTE: The UPS R12000 XR has a hardwired input and output.	207552-B22

Options

UPS Options	SNMP Serial Port Card **NOTE:** Supports tower and rack UPS XR models ranging from 1000 – 3000VA.	192189-B21
	Six Port Card **NOTE:** Supports tower and rack UPS XR models ranging from 1000 – 3000VA.	192185-B21
	High to Low Voltage Transformer (250VA) **NOTE:** Supports R6000 UPS series only. 2.5 amps @ 125 Volts max output across two NEMA 5-15.	388643-B21
	Extended Runtime Module, R1500 XR **NOTE:** 2U each, two ERM maximum.	218971-B21
	Extended Runtime Module, R3000 XR **NOTE:** 2U each, one ERM maximum.	192188-B21
	Extended Runtime Module, R6000 **NOTE:** 3U each, two ERM maximum.	347224-B21
	Extended Runtime Module, R12000 XR, 4U **NOTE:** 4U each, two ERM maximum.	217800-B21
	R12000 XR BackPlate Receptacle Kit, (2) L6-30R **NOTE:** The R12000 XR BackPlate Kit has a hardwired input.	325361-001
	R12000 XR BackPlate Receptacle Kit, (2) IEC-309R **NOTE:** The R12000 XR BackPlate Kit has a hardwired input.	325361-B21
	SNMP-EN Adapter **NOTE:** Supports R6000 UPS series only.	347225-B21
	Multi-Server UPS Card **NOTE:** Supports R6000 UPS series only.	123508-B21
	Scalable UPS Card **NOTE:** Supports R6000 UPS series only.	123509-B21
Modular PDUs 1U/0U (Up to 32 outlets) **NOTE**: 1U/0U mounting brackets shipped with the unit (optimized for 10000 and 9000 series racks).	HP Modular Power Distribution Units (mPDU), Low Volt Model, 24A (100-127 VAC) **NOTE:** This mPDU (252663-D71) may also be used to connect the low volt model of the UPS R3000 XR.	252663-D71
	HP Modular Power Distribution Units (mPDU), High Volt Model, 24A (200-240 VAC)	252663-D72
	HP Modular Power Distribution Units (mPDU), High Volt Model, 40A (200-240 VAC) **NOTE:** This mPDU (252663-B21), 40A model has a hardwired input.	252663-B21
	HP Modular Power Distribution Units (mPDU), High Volt Model, 16A (200-240 VAC) **NOTE:** This PDU has a detachable input power cord and allows for adaptability to country specific power requirements (country-specific cord needs to be ordered separately; for North America, need IEC C19 to L6-20P power cord PN: 340653-001). This model may also be used with the high volt UPSs R3000 XR and R6000. **NOTE:** Please see the following Modular Power Distribution Unit (Zero-U/1U Modular PDUs) QuickSpecs for additional options including shorter jumper cables and country specific power cords: http://www5.compaq.com/products/quickspecs/11041_na/11041_na.HTML	252663-B24
PDU Options	Third Party PDU Mounting Kit **NOTE:** This kit allows you to mount the Modular PDUs in racks other than the 9000/10000 Series racks (any racks using the standard 19" rail). For more details please refer the Modular PDU QuickSpecs.	310777-B21
	4.5' IEC C 13 to IEC C14 PDU Jumper Cable (1 per pack)	142257-006
	4.5' IEC C 13 to IEC C14 PDU Jumper Cable (15 per pack)	142257-007

Options

USB Options	USB Easy Access Keyboard (carbon)	267146-008
	USB Easy Access Keyboard (carbonite)	DC168B#ABA
	USB 2-Button Scroll Mouse (carbon)	195255-B25
	USB 2-Button Scroll Mouse (carbonite)	DC172B
	USB Floppy	304707-B21
Rack Builder	**Please see the Compaq Rack Builder for configuration assistance at** http://www.compaq.com/rackbuilder/ **NOTE:** This Web site is available in English only.	
HP Rack 10000 Series (Graphite Metallic)	S10614 (14U) Rack Cabinet - Shock Pallet	292302-B22
	HP Rack 10842 (42U, 800mm wide) – Pallet	257415-B21
	HP Rack 10842 (42U, 800mm wide) – Shock Pallet	257415-B22
	HP Rack 10647 (47U) – Pallet	245160-B21
	HP Rack 10647 (47U) – Crated	245160-B23
	HP Rack 10642 (42U) – Pallet	245161-B21
	HP Rack 10642 (42U) – Shock Pallet	245161-B22
	HP Rack 10642 (42U) – Crated	245161-B23
	HP Rack 10636 (36U) – Pallet	245162-B21
	HP Rack 10636 (36U) – Shock Pallet	245162-B22
	HP Rack 10636 (36U) – Crated	245162-B23
	HP Rack 10622 (22U) – Pallet	245163-B21
	HP Rack 10622 (22U) – Shock Pallet	245163-B22
	HP Rack 10622 (22U) – Crated	245163-B23
	NOTE: -B21 (pallet) used to ship empty racks shipped on a truck -B22 (shock pallet) used to ship racks with equipment installed (by custom systems, VARs and Channels) -B23 (crated) used for air shipments of empty racks **NOTE:** Not all HP equipment is qualified to be shipped in the Rack 10000 series. **NOTE:** Please see the Rack 10000 QuickSpecs for Technical Specifications such as height, width, depth, weight, and color: http://www5.compaq.com/products/quickspecs/10995_na/10995_na.HTML **NOTE:** For additional information regarding Rack Cabinets, please see the following URL: http://h18000.www1.hp.com/products/servers/proliantstorage/rack-options/index.html. **NOTE:** This Web site is available in English only.	
Compaq Rack 9000 Series (opal)	Compaq Rack 9142 (42U) – Pallet	120663-B21
	Compaq Rack 9142 (42U) – Shock Pallet	120663-B22
	Compaq Rack 9142 (42U) – Crated	120663-B23
	NOTE: –B21 (pallet) used to ship empty racks shipped on a truck –B22 (shock pallet) used to ship racks with equipment installed (by custom systems, VARs and Channels) –B23 (crated) used for air shipments of empty racks **NOTE:** Please see the Rack 10000 QuickSpecs for Technical Specifications such as height, width, depth, weight, and color: http://www5.compaq.com/products/quickspecs/10366_na/10366_na.HTML **NOTE:** For additional information regarding Rack Cabinets, please see the following URL: http://h18000.www1.hp.com/products/servers/proliantstorage/rack-options/index.html. **NOTE:** This Web site is available in English only.	

Options

Rack Options for HP Rack 10000 Series	Rack Blanking Panels – Graphite (Multi)	253214-B26
	NOTE: Contains one each of 1U, 2U, 4U and 8U.	
	Rack Blanking Panels – Graphite (1U)	253214-B21
	NOTE: The Rack Blanking Panels (PN 253214-B21) contains 10 each of (1U).	
	Rack Blanking Panels – Graphite (2U)	253214-B22
	NOTE: The Rack Blanking Panels (PN 253214-B22) contains 10 each of (2U).	
	Rack Blanking Panels – Graphite (3U)	253214-B23
	NOTE: The Rack Blanking Panels (PN 253214-B23) contains 10 each of (3U).	
	Rack Blanking Panels – Graphite (4U)	253214-B24
	NOTE: The Rack Blanking Panels (PN 253214-B24) contains 10 each of (4U).	
	Rack Blanking Panels – Graphite (5U)	253214-B25
	NOTE: The Rack Blanking Panels (PN 253214-B25) contains 10 each of (5U).	
	600mm Stabilizer Kit – Graphite	246107-B21
	Baying Kit for Rack 10000 series (Carbon)	248929-B21
	42U Side Panel – Graphite Metallic	246099-B21
	110V Fan Kit (Graphite)	257413-B21
	NOTE: Roof Mount Includes power cord with IEC320-C13 to Nema 5-15P.	
	220V Fan Kit (Graphite)	257414-B21
	NOTE: Roof Mount Includes power cord with IEC320-C13 to Nema 6-15P.	
	36U Side Panel – Graphite Metallic	246102-B21
	47U Side Panel – Graphite Metallic	255486-B21
	Monitor/Utility Shelf - Graphite	253449-B21
	800mm Wide Stabilizer Kit	255488-B21
	NOTE: The 800mm wide Stabilizer (PN 255488-B21) is to be used only with the 10842 rack.	
	9000/10000 Series Offset Baying Kit (42U)	248931-B21
	NOTE: This kit can be used to connect 9000 and 10000 series racks of the same U height together. Kit contents include hardware for connecting racks and a panel to cover the 100mm gap at the rear of the two racks.	
	NOTE: For more information on rack and rack options, please visit the following URL: http://h18000.www1.hp.com/products/servers/proliantstorage/rack-options/index.html.	
	NOTE: This Web site is available in English only.	

Options

Rack Options for Rack 9000 Series	Baying/Coupling Kit	120669-B21
	42U Side Panel NOTE: The 42U Side Panel (PN 120670-B21) supports the HP Rack 9142 and HP Rack 9842.	120670-B21
	36U Side Panel NOTE: The 36U Side Panel (PN 120671-B21) supports the HP Rack 9136.	120671-B21
	600mm Stabilizer Option Kit	120673-B21
	800mm Stabilizer Option Kit (Opal) NOTE: The 800mm Stabilizer Kit (PN 234493-B21) supports the Rack 9842 only	234493-B21
	Rack Blanking Panel (Multi) NOTE: Kit includes four panels in 1U, 2U, 4U, and 8U.	169940-B21
	Rack Blanking Panels (1U) NOTE: The Rack Blanking Panels (PN 189453-B21) contains 10 each of (1U).	189453-B21
	Rack Blanking Panels (2U) NOTE: The Rack Blanking Panels (PN 189453-B21) contains 10 each of (2U).	189453-B22
	Rack Blanking Panels (3U) NOTE: The Rack Blanking Panels (PN 189453-B21) contains 10 each of (3U).	189453-B23
	Rack Blanking Panels (4U) NOTE: The Rack Blanking Panels (PN 189453-B21) contains 10 each of (4U).	189453-B24
	Rack Blanking Panels (5U) NOTE: The Rack Blanking Panels (PN 189453-B21) contains 10 each of (5U)	189453-B25
	9142 Extension Kit NOTE: The 9142 Extension Kit (PN 120679-B21) supports the Compaq Rack 9142 only.	120679-B21
	9136 Extension Kit	218216-B21
	9142 Short Rear Door NOTE: The 9142 Short Rear Door (PN 218217-B21) supports the HP Rack 9142 only.	218217-B21
	9136 Short Rear Door	218218-B21
	Split Rear Door (Opal) NOTE: The Split Rear Door (PN 254045-B21) supports the 600 mm wide, 42U 9000 series rack.	254045-B21
	9142 Split Rear Door	254045-B21
	9000/10000 Series Offset Baying Kit NOTE: This kit can be used to connect 9000 and 10000 series racks in 42U height together. Kit contents include hardware for connecting racks and a panel to cover the 100mm gap at the rear of the two racks.	248931-B21
	NOTE: For more information on rack and rack options, please visit the following URL: http://h18000.www1.hp.com/products/servers/proliantstorage/rack-options/index.html. NOTE: This Web site is available in English only.	

Rack Options for Rack 7000 Series and Telco racks	High Air Flow Rack Door Insert for the 7122 Rack	157847-B21
	High Air Flow Rack Door Insert for the 7142 Rack (single)	327281-B21
	High Air Flow Rack Door Insert for the 7142 Rack (6-pack)	327281-B22
	Compaq Networking Cable Management Kit	292407-B21
	Compaq Rack Extension Kit for 7142	154392-B21

Options

Rack Options for Rack 7000, 9000 and 10000 Series	Monitor Utility Shelf	303606-B21
	Ballast Option Kit	120672-B21
	100kg Sliding Shelf	234672-B21
	Rack Rail Adapter Kit (25" depth)	120675-B21
	Cable Management D-Rings Kit	168233-B21
	100-kg Shelf Kit NOTE: This 100Kg Shelf Kit (PN 234672-B21) supports the Rack 10000 and 9000 series only. NOTE: For more information on rack and rack options, please visit the following URL: http://h18000.www1.hp.com/products/servers/proliantstorage/rack-options/index.html. NOTE: This Web site is available in English only.	234672-B21
Rack Options for HP, Compaq-branded, Third Party and Telco racks	Telco rack-mounting hardware kit for ProLiant BL e-Class Server Blade Enclosure	266076-B21
	Enclosure Shipping Bracket Kit NOTE: When shipping an enclosure in a rack shipping brackets must be installed to the rack.	293119-B21
Service and Support Offerings (HP Care Pack Services)	Extend hardware warranty on ProLiant BL e-Class server blades from 1 Yr parts to 3 Yr parts, advanced exchange, next day response on up to 20 ProLiant BL e-Class server blades internal to a single ProLiant e-Class server blade enclosure. (6-3 Part Number for U.S.)	274363-002
	Extend hardware warranty on ProLiant BL e-Class server blades from 1 Yr parts to 3 Yr parts, advanced exchange, next day response on up to 20 ProLiant BL e-Class server blades internal to a single ProLiant e-Class server blade enclosure. (Canadian Part Number)	FP-J1MEC-36
	Hardware Services On-site Service	
	Next Business Day On-site Service, 5-Day x 9-Hour Coverage, 3 Years (Canadian Part Number)	FP-J1XEC-36
	Next Business Day On-site Service, 5-Day x 9-Hour Coverage, 3 Years (U.S. Part Number)	274364-002
	4-Hour On-site Service 5-Day x 13-Hour Coverage, 3 Years (Canadian Part Number)	FP-J13EC-36
	4-Hour On-site Service, 5-Day x 13-Hour, 3 Years (U.S. Part Number) 331128-002	331128-002
	4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years (Canadian Part Number)	FP-J17EC-36
	4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years (U.S. Part Number)	274366-002
	6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years (Canadian Part Number)	FP-J1CEC-36
	6-Hour Call to Repair, On-site Service 7-Day x 24-Hour Coverage, 3 Years (U.S. Part Number)	331129-002
	Installation & Start-up Services	
	Hardware Installation (Canadian Part Number)	FP-J1INS-EC
	Hardware Installation (U.S. Part Number)	274367-002
	Provides for the Installation and Start-up of HP's Rapid Deployment Pack on a Customer supplied server designated as a Deployment Server. Includes the deployment of a single server. This new server will be deployed using either one of the pre-configured scripts or an image. In addition, the service will provide for the capture and storage of the configuration of the newly deployed server and orientation on product usage. To be delivered during standard office ours, standard office days. (U.S. Part Number)	274545-002
	NOTE: For more information, customer/resellers maycontact http://www.hp.com/services/carepack	

ProLiant BL10e G2 Server Blade

STANDARD MEMORY

512-MB PC2100 Registered ECC DDR DIMM Memory installed (1 x 512-MB SDRAM DIMM)

STANDARD MEMORY PLUS OPTIONAL MEMORY

Up to 1024 MB PC2100 Registered ECC DDR DIMM Memory is available with the installation of optional SDRAM DIMM memory expansion kits.

Memory		Slot	
		1	2
Standard	512 MB	512 MB	Empty
Optional	640 MB	512 MB	128 MB
Optional	768 MB	512 MB	256 MB
Maximum	1024 MB	512 MB	512 MB

Following are memory options available from HP:

- 128MB of Advanced ECC PC2100 DDR SDRAM DIMM Memory Kit (1 x 128 MB) 287494-B21
- 256MB of Advanced ECC PC2100 DDR SDRAM DIMM Memory Kit (1 x 256 MB) 287495-B21
- 512MB of Advanced ECC PC2100 DDR SDRAM DIMM Memory Kit (1 x 512 MB) 287496-B21

HP ProLiant BL10e G2 Server Blade Enclosure	**Dimensions**	Height	5.25 in (13.35 cm) (3U)
		Width	17.5 in (44.45 cm)
		Depth	28.35 in (72.01 cm)
	Weight	Interconnect Tray	4.5 lb (2.04 kg)
		20 server blades	35 lb (15.86 kg)
		Enclosure with 2 power supplies	54.5 lb (24.7 kg)
		Total weight fully loaded	94 lb (41.73 kg)

Power Supply	**600W, Hot-Plug Redundant (2 standard)**	Two Redundant Power Supplies (optimized to provide full redundancy at 120 and 220 volts)	
	Input Specifications	Normal Line Voltage	100 to 127VAC, 200 to 240VAC
		Range Input Line	90 to 264VAC
		Frequency Range	43 to 63Hz
		Power Factor	> 0.95 (120Vac/Max Load)
		Input Current	8.5A @ 120VAC, 4.3A @ 240VAC
		Inrush Current	25A
		Holdup Time	25mS
	General Specifications	Full Output Rating	600W
		Minimum Load	
	Dielectric Voltage Withstand	Input to Output	1500Vac or 2150Vdc (1 Min.)
		Input to Ground	1500Vac or 2150Vdc (1 Min.)
	Input Transient Susceptibility	Common and Differential Mode (superimposed on AC line)	2200V
		Differential Mode	1100V

NOTES: ProLiant BL e-Class Power Calculator is available from the product page at the following address: http://www.Compaq.com/products/servers/proliant-bl/e-class/index.html
Click "Power Calculator" in the "Support" section.
NOTE: This Web site is available in English only.

Non-Hot Plug Ultra ATA/100 Hard Drives	**40 GB 5.4 K**	**Capacity**	40,007 MB	
		Height	0.374 in (9.5 mm)	
		Width	2.756 in (70 mm)	
		Interface	Ultra ATA-5 (IDE) 100 MB/s	
		Transfer Rate Synchronous (Maximum)	27.8 to 44.1 MB/sec (Disk-Buffer)	
		Seek Time (typical reads, including settling)	Single Track	13 ms
			Rotational Speed	5,400 RPM
		Physical Configuration	Bytes/Sector	512
			Logical Blocks	78,140,160 (LBA)
		Operating Temperature	41° to 131° F (5° to 55° C) (Ambient)	

Two NC3163 Fast Ethernet NIC Embedded 10/100 WOL (Wake on LAN)	**Network Interface**	10Base-T/100Base-TX	
	Compatibility	IEEE 802.3/802.3u compliant	
	Data Transfer Method	32-bit bus-master PCI	
	Network Transfer Rate	10Base-T (Half-Duplex)	10 Mb/s
		10Base-T (Full-Duplex)	20 Mb/s
		100Base-TX (Half-Duplex)	100 Mb/s
		100Base-TX (Full-Duplex)	200 Mb/s
	Connector	Mates into enclosure center wall assembly	
	Cable Support	10Base-T	Categories 3, 4 or 5 UTP; up to 328 ft (100 m)
		100Base-TX	Category 5 UTP; up to 328 ft (100 m)

HP ProLiant BL e-Class C-GbE Interconnect Switch	**General**	Two 24-port Managed Layer 2 Ethernet switches for server network cable reduction Fully pre-configured for immediate operation
	Performance	4.0 Gbps Switching bandwidth 12 Million pps aggregate throughput (64-byte packets) Full-wire speed for all connections
	Forwarding Mode	Store and forward
	MAC Addresses	16,382; MAC address based filtering and MAC address packet priority configuring
	Memory	64MB Main 12MB Flash 32MB Packet Buffer
	Ports	Four RJ-45 10/100/1000 T/TX/T Gigabit Ethernet uplink ports for customer use Forty 10/100 T/TX fast Ethernet downlink ports dedicated to server blade to interconnect switch network connections Two 10/100 T/TX Fast Ethernet ports dedicated to inter-switch module communications One RS-232 DB-9 port (console connector for Integrated Administrator) One 10/100 T/TX Fast Ethernet port (Network management connector for Integrated Administrator) Auto-negotiation and auto-sensing with full-duplex
	Management	Web-based interface with graphical user interface Console menu driven Interface via local RS-232 and Telnet Scriptable command line interface (CLI) SNMP v1 (RFC 1157) with scripting tool and example scripts RMON v1 (RFC 1757) groups 1, 2, 3, and 9 Telnet (RFC 854) MIB-II (RFC 1213), Bridge MIB (RFC 1493), Interface MIB (RFC 2233), 801.1Q MIB (RFC 2684), RMON1 MIB (RFC 1757) groups 1, 2, 3, and 9, Ethernet MIB (RFC1643) and HP-specific switch MIBs 64 Port-based IEEE 802.1Q tagged VLANs per switch module XML human read/write configuration file TFTP client (RFC 783) for backup and remote download of configuration and history log files IGMP (Internet Group Management Protocol) multicasting EtherChannel (Fast EtherChannel, GigaChannel) compatible trunking Uplink port speed and link activity LEDs Simple network time protocol (SNTP) Broadcast, multicast, and DA-unknown packet storm control BootP and DHCP client support BootP and DHCP client support Port mirroring
	IEEE Standards Compliance	IEEE 802.3 10Base-T Ethernet IEEE 802.3u 100Base-TX Ethernet IEEE 802.3ab 1000Base-T Ethernet IEEE 802.1D Spanning Tree Protocol IEEE 802.1p Quality of Service (QoS) Packet Prioritization IEEE 802.3ac and 802.1Q Port Based Tagged VLANs and VLAN Extensions

	IEEE 802.1Q Trunking Encapsulation IEEE 802.3x Flow Control	
Form Factor	Removable interconnect tray that plugs into the rear of the server blade enclosure	
Network Transfer Rate	10Base-T (Half-Duplex)	10 Mb/s
	10Base-T (Full-Duplex)	20 Mb/s
	100Base-TX (Half-Duplex)	100 Mb/s
	100Base-TX (Full-Duplex)	200 Mb/s
	1000Base-T (Full-Duplex)	2000 Mb/s
	1000Base-T (Full-Duplex)	2000 Mb/s
Cable Support	10Base-T	Categories 3, 4 or 5 UTP;up to 328 ft (100 m)
	100Base-TX	Category 5 UTP; up to 328 ft (100 m)
	1000Base-T	Category 5 UTP; up to 328 ft (100 m)

© Copyright 2003 Hewlett-Packard Development Company, L.P.

The information contained herein is subject to change without notice.

Microsoft and Windows NT are US registered trademarks of Microsoft Corporation. Intel is a US registered trademark of Intel Corporation.

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.